



5090

Building Life Cycle Report

BUILDING LIFE CYCLE REPORT OF THE PROPOSED DEVELOPMENT

Raheen Housing Development

Proposed Residential Development

**Ballykeeffe,
Raheen,
Co. Limerick**

DW Raheen Developments Ltd

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1 Introduction

1.1 Report purpose

This report gives information on the long term running and maintenance costs as they would apply on a per residential unit basis at the time of application and considers the measures undertaken to effectively manage and reduce costs for the benefit of residents.

1.2 Instruction

DKPartnership (DKP) have been commissioned by DW Raheen Developments Ltd, to carry out the analysis and report for the proposed development at Ballykeeffe, Raheen, Co. Limerick.

1.3 Development description

DW Raheen Developments Ltd. are seeking a ten year permission for a strategic housing development consisting of the provision of 384 residential house and apartment units on a ca. 10.44 hectare site located in Ballykeeffe, Raheen, Co. Limerick. The site is greenfield land that is enclosed by existing residential development to the south and east, the R510 to the west and open land to the north. Access to the site is provided by an existing entrance off a roundabout on the R510 regional road.

The proposed development will provide as follows:

- 202 no. housing units, comprising a variety of forms to include bungalows, detached, semi-detached and terraced houses. A mix of house sizes are proposed to include 20 no. two bedroom houses, 156 no. three bedroom houses and 26 no. four bedroom houses.
- 182 apartment and duplex units across 25 small scale blocks, 2 to 4 storeys in heights, throughout the development. The apartments and duplexes provide a mix of one, two, three and four bed units, comprising of 10 no. four bedroom duplex units, 10 no. three bedroom duplex units, 6 no. two bedroom duplex units, 18 no. three bedroom apartments, 92 no. two bedroom apartments and 46 no. one bedroom apartments.

The proposed development also includes;

- A childcare facility measuring 761.75m², providing 79 childcare places (55 full time and 24 after school places), located at the south-western edge of the development.
- The provision of 377 no. car parking spaces and 311 secured bicycle parking spaces.
- The provision of 3 no. ESB sub-stations, ancillary services and infrastructure works including foul and surface water drainage, attenuation areas, landscaped public open spaces (approximately 29,500m², or 28.2% of the total site area), landscaping, lighting, internal roads, cycle paths, and footpaths.

A Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) have been prepared in respect of the proposed development.

1.4 Guidelines

This Building Lifecycle Report sets out to address the requirements in the Design Standards for New Apartments, Guidelines for Planning Authorities issued under Section 28 of the Planning and Development Act, 2000. The Apartment Guidelines introduced a requirement to include details on the management and maintenance of apartment schemes, specifically Section 6.13 *“planning applications for apartment development shall include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents”*.

2 Executive Summary

2.1 Analysis conducted

This report details;

- An assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application.
- the measures considered by the proposer to effectively manage and reduce costs for the benefit of residents

2.2 Guidelines and standards applied

For this report we applied the recommendations and guideline of the following;

Sustainable Urban Housing: Design Standards for New Apartments; Guidelines for Planning Authorities issued under Section 28 of the Planning and Development Act, 2000 (as amended)

2.3 Assessment Summary

The Building Lifecycle Report addresses requirements as outlined in the 'Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities)' as they relate to this proposed residential project. Considered scheme design and choice of building materials, along with the effective management by the appointed Property Management Company and each homeowner playing their part, it will help achieve a desirable community into the future. The report examines the associated long term running and maintenance cost per unit and includes details of measures proposed to manage and reduce costs for the benefit of future residents.

3 Geographical Overview

3.1 Project overview

Image 3.1 the (google) site map below indicates the location of the site approximately outlined.



Image 3.1 proposed development site boundary

4 Assessment of Long Term Running Costs

An assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application.

4.1 General approach

Units in this proposed project will be designed and constructed using quality materials. Careful consideration of long term running and maintenance costs for the end-user have been accounted for from the outset of this project, and this conscious thought process is essential in providing an end product which will require minimal maintenance into the future. Long term running and maintenance costs for the development is further supported by effective maintenance / operational systems, i.e. Property management company and service charge budget.

4.2 Property management company

The development will be managed by DW Raheen Developments Ltd or a property management company will be engaged to ensure that all property management functions are dealt with for the proposed development and that the running and maintenance costs of the common areas of the development are kept within the agreed annual operational budget. The property management company will enter into a contract directly with the owner's management company for the ongoing management of the development. This contract will be for a minimum of three years and in the form directed by the PSRA. The property management company will also have the following responsibilities for the apartments within the development once constructed:

- Timely formation of an Owners Management Company (OMC) – which will be a company limited by guarantee having no share capital. All future purchasers will be obliged to become members of this OMC.
- Preparation of annual service charge budget for the development common areas.
- Fair and equitable apportionment of the Annual operational charges in line with the Multi Units Development Act 2011 (MUD Act).
- Engagement of independent legal representation on behalf of the OMC in keeping with the MUD Act – including completion of developer OMC agreement and transfer of common areas.
- Transfer of documentation in line with Schedule 3 of the MUD Act.
- Estate management.
- Third party contractors procurement and management.
- Owners management company reporting.
- Accounting and corporate services.
- Insurance management.
- After hours services and staff administration.

4.3 Service charge annual budget

The property management company has several key responsibilities including the preparation of the service charge budget for the development for agreement with the owner's management company. The service charge budget will cover such items as cleaning, landscaping, refuse management, utility bills, insurance, maintenance, and security in accordance with the Multi User Development Act 2011.

The service charge budget will also include an allowance for a sinking fund and this allowance will be determined following the review of the building investment fund (BIF) report prepared for the owner's management company. The BIF report, once adopted by the owner's management company, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year cycle period. The BIF report will identify those works which are necessary to maintain, repair and enhance the premises over the 30-year life cycle period, as required by the Multi User Development Act 2011. In line with the requirements of the Multi User Development Act 2011 the members of the owner's management company will determine and agree each year at an AGM of the members the contribution to be made to the sinking fund, having regard to the BIF report produced.

5 Measures to Reduce Cost

The measures considered by the proposer to effectively manage and reduce costs for the benefit of residents

5.1 General approach

The following measures were specifically considered to effectively manage and reduce costs for the benefit of residents. The tables below provide information of the measures proposed to assist with the effective management and reduction of costs associated with the completed development for the end-user/occupant. These include

- Energy and Emissions
- Low Energy Technologies
- Building and Material Specification
- Landscape
- Waste Management
- Health and Well Being
- Building Management
- Transport

5.2 Energy and Emissions

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. It is proposed to target an A2/A3 rating for the houses and apartments which will equate to the following emissions. A2:25-50 kwh/m2/yr with CO2 emissions ~10kgCO2/m2/yr A3:50-75 kwh/m2/yr with CO2 emissions ~12kgCO2/m2/yr	Higher BER ratings reduce energy consumption and running costs.
Fabric Energy Efficiency	The U-values of the building fabric will be in line with the requirements set out in the regulatory requirements of TGD Part L. Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance with TGD Part L.	Lower U-values and improved air tightness will be incorporated to minimise heat losses through the building fabric and lower the energy consumption.
Energy Labelled White Goods	Should the applicants provide a white goods package for the apartments, they will be A rated appliances to achieve a high energy efficiency rating.	The provision of high rated appliances in turn reduces the amount of energy consumption.
External Lighting	The proposed lighting scheme within the development consists of pole mounted fittings as indicated on the lighting plan drawings. The luminaire selected is a led flat base asymmetric fitting, this fitting was selected for the following reasons; Low level lighting, Minimal upward light spill, Low voltage LED lamps. Each light fitting shall be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.	The site lighting has been designed to provide a safe environment for pedestrians / cyclists / moving vehicles, to deter anti-social.

Table 5.2: Energy and Emissions

5.3 Low Energy Technologies

Measure	Description	Benefit
PV Solar Panels	PV Solar Panels will be considered in order to meet the renewable energy contribution required by Part L of the Building Regulations. The panels are typically placed on the South facing side of the building to maximise the solar exposure.	PV Solar Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment. They also reduce the overall requirement to purchase electricity from the grid.
Exhaust air heat pump	It is proposed to utilise an exhaust air heat pump type system for heating, hot water and ventilation of the apartment units.	Central extract ventilation provides continuous ventilation with low energy usage. Central extract operates at a low trickle speed constantly and ramp up in response to an increase in humidity from wet areas. Demand control ventilation incorporates automated wall vents which open/close dependent on internal humidity conditions.
Mechanical Ventilation Heat Recovery	Centralised mechanical ventilation will be provided where required to all dwellings to ensure that the air quality within the dwellings will be adequate. The inclusion of Heat Recovery Ventilation into the centralised ventilation system will be considered and assessed in order to minimise the energy usage within the dwelling.	Mechanical Heat Recovery Ventilation provides ventilation with low energy usage. The MVHR reduces overall energy and ensures a continuous fresh clean air supply.
Electric car charging points	In accordance with public policy ducting from landlord distribution board to designated electric car charging parking spaces will be provided.	This will provide the option of electric car charging points and allow occupants electric car ownership and use.

Table 5.3: Low Energy Technologies

5.4 Building and Material Specification

The proposed Apartment and Duplex Buildings have been designed in compliance with the Building Regulations. The following particular measures have been taken to enhance the Lifetime performance of the buildings:

Description of Measure	Benefit
Daylighting to circulation areas	Avoids the requirement for continuous artificial lighting
Lighting to communal areas	Lighting to Communal / Circulation Areas within the development Buildings are being considered to be powered by roof mounted photovoltaic panels where practicable
Surface carparking areas	Omits the requirement for a basement which, avoids costly mechanical ventilation systems & associated maintenance.
Natural ventilation to circulation areas	Avoids costly mechanical ventilation systems and associated maintenance and future replacement
External paved and landscaped areas	All of these require low/minimal maintenance
Roof construction consists of traditional pitched roofs with slate coverings.	Minimises ongoing maintenance

Table 5.4: Buildings

Due consideration is given to the requirements of the Building Regulations and to BS 7543: 2015 Guide to Durability of Buildings and Building Elements, which provide guidance on the durability, design life and predicted service life of buildings and their component parts.

Description of Measure	Benefit
Use of brickwork, self-finished render and similar finishes.	Requires no on-going maintenance.
Use of factory finished uPVC / alu-clad windows and doors and glass balconies.	Requires no on-going maintenance.
Use of roof coverings with proven durability and performance.	Requires no on-going maintenance.
Durable and robust play equipment, features, fencing, etc. to be used throughout.	Reduced on-going maintenance requirement.

Table 5.4.1: Material specification

5.5 Landscape

Measure	Description	Benefit
Hard Landscape Materials	Sustainable, robust materials, with high slip resistance to be used for paving. Durable and robust finishes to be selected for all fencing, furniture, bin and bicycle storage units.	Materials selected to minimise on-going maintenance.
Soft Landscape Materials	Planting proposals have been formulated to complement the local setting as well as being fit for purpose in respect of private and public realm. Native tree species have been selected in significant numbers for planting along boundaries and across open spaces while non-native species have also been selected where spatial constraints are a factor.	Reduction in the frequency of required soft landscape maintenance.
Sustainability & Biodiversity	Sustainability aspects of the proposed development include the use of native trees & hedges where possible across the site. Other species have been carefully selected for compatibility with the size of available spaces which is an important factor in long term management of the development. The overall objective is to enhance the biodiversity potential of the site in addition to providing seasonal interest and variety. Sensibly placed flowering shrub and groundcover planting have been included to further promote biodiversity (pollinator species attracting insects and birdlife).	Enhanced sustainability of longterm estate management.
Maintenance & Management	Complex planting arrangements have been omitted thus avoiding maintenance and management requirements.	Estate maintenance costs reduced.

Table 5.5: Landscape

5.6 Waste Management

Measure	Description	Benefit
Construction and Operational Waste Management Plan	The application is accompanied by a Construction and Operational Waste Management Plan	The report demonstrates how the scheme has been designed to comply with best practice
Composting	Organic waste bins to be provided throughout	Helps reduce potential waste charges.
Storage of Non-Recyclable Waste and Recyclable Household Waste	Domestic waste management strategy will include: - Centralised bin storage and collection area - Separate grey, brown and green bin.	Helps reduce potential waste charges

Table 5.6: Waste Management

5.7 Health and Well Being

Measure	Description	Benefit
Natural / Day Light	The buildings have been favourably orientated. The design, separation distances and layout of the apartment blocks have been designed to optimize the ingress of natural daylight/sunlight to the proposed dwellings to provide good levels of natural light.	Reduces reliance on artificial lighting thereby reducing costs
Accessibility	All units will comply with the requirements of Part M/K.	Reduces the level of adaptation, and associated costs, potentially necessitated by residents' future circumstances
Security	The scheme is designed to incorporate passive surveillance with the following security strategies likely to be adopted: CCTV, monitoring details, Secure bicycle stands covered by CCTV	Help to reduce potential security/management costs.
Natural Amenity	Large open green spaces proposed throughout the scheme, connecting to the existing green spaces.	Facilitates community interaction, socialising and play resulting in improved wellbeing.

Table 5.7: Health and Well Being

5.8 Building Management

Measure	Description	Benefit
Operating Management Company	A Residents' Pack (prepared by the OMC) will be provided to each resident. This will typically provide a range of detail including; information on contact details for the managing agent, emergency contact information and a clear set of rules and regulations	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.
Home Buyers Guide	A handover pack (including Homeowner Guide) will be issued via email to new Homeowners upon closing. This pack will contain important information regarding the new home, including: GPRN, MPRN. Contact details for all relevant suppliers and user	Residents are as informed as possible so that any issues can be addressed in a timely and efficient manner.

	instructions for appliances and devices in the property are also included.	
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Table 5.8: Building Management

5.9 Transport

Measure	Description	Benefit
Bicycle Storage	The provision of high-quality secure & covered bicycle parking facilities, for both short term and long-term parking requirements.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle.
Access to Public Transport (Rail)	The proposed development is located approx. 5km to Limerick train station.	The availability, proximity to public transport services contributes to reducing the reliance on the private motor vehicle for all journey types.
Access to Public Transport (Bus Services)	There are a number of bus routes located on Father Russell Road approx. 1000m, (routes 301, 314 local) Bus Eireann also provides services to Dublin city and Galway.	These bus services provide access locally and also to Dublin City / Galway providing a viable and practical sustainable alternative to journeys undertaken by the private motor car.

Table 5.9: Transport